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ABSTRACT

With or without the support of research, clinicians must make judgments concerning relations between different areas of psychological functioning. Recently, studies have been made of possible relations between different areas of mental activity, including logical and emotional conception and social, emotional, and perceptual functioning. Nannis suggests that an understanding of children's concepts of emotions has important implications for the therapeutic process and points out that insight-oriented therapy must take into account developmental limitations in children's ability to conceptualize emotions. Gordon posits the structure of adolescents' logical thinking as a determinant of their social judgments and behavior. Slotnick argues that autistic children's social resistance, deficits in information processing, and deficient self-regulatory abilities are responsible in part for the retardation observed in their logical structural development. However, in order to determine the existence of relationships, it is important to have a good understanding of phenomena thought to be related. In general, the effort to apply structuralist theory to clinical issues comes up against problems of distinguishing and determining relations between structure and content, between structure and function, and between one structural domain and another. (RH)

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Structures and "Stretchers": Extensions of Structural Developmental Theory to the Emotional, Social and Clinical Domains

Discussion of the symposium, "Structural and functional elements in social and emotional development and therapeutic intervention," presented at the biannual meeting of the Society for Research in Child Development, Toronto, 1985

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As the title of this symposium indicates, one of the main concerns of the papers we have just heard has been the possible relations between different areas of mental activity, including logical and emotional conception and social, emotional, and perceptual functioning. The field of cognitive development in the past decade or so has seen a reaction against Piaget's theory that has produced pessimism concerning the possibility of finding relations between domains of cognitive activity. This pessimism perhaps has had the positive effect of encouraging researchers to elaborate more precisely the nature of individual conceptual domains and cognitive functions. The elaboration of individual domains and functions would appear to be an essential prerequisite for the exploration of possible relations between them. To understand a relation, one needs to understand the relata. From this perspective, the recent emergence of theories, such as those of Case (1984), Fischer (1980), and Halford (1982), specifying structural and functional commonalities between different cognitive domains may be taken to represent not only a reaction against the compartmental view of mind, but also an outgrowth of that very view.

For the clinician, a concern for interrelationships among various areas of psychological functioning is unavoidable, since the clinician is confronted with the multiply-determined and interdependent behaviors of the patient. Factors cannot be controlled in therapy as they can in an experiment. With or without the support of relevant research, the clinician must make judgments concerning the relations between different areas of functioning, since the patient's problems will not wait until such research is available.

Thus, from both a theoretical and a practical standpoint, the research and theorizing provided by the present papers are timely. Nannis offers suggestions concerning relations between the concept of emotions and emotions themselves; Gordon discusses possible influences of logical cognition on social judgment and behavior; Slotnick discusses influences of social functioning, self-regulation and perception on logical cognition. I will discuss each of these papers in turn.

Nannis suggests that an understanding of children's concepts of emotions has important implications for the therapeutic process. In so far as therapy produces changes in social and emotional functioning through the acquisition of insight into emotions, we have at least an indirect link between concepts of emotions and emotions themselves. Certainly the ability to reflect on one's own emotions and on those of other people is likely to be highly adaptive for socioemotional functioning. As Nannis points out, insight-oriented therapy must take into account developmental limitations in the child's ability to conceive of emotions. It is also useful to know that the child's level of conceptualization will be likely to vary depending on whether the child is reflecting on his or her own emotions or on

those of others. However, it would be a mistake to conclude too hastily that the development of children's emotional concepts and of their emotions themselves proceed through synchronous or structurally isomorphic stages. Indeed, there is some reason to believe they do not. While the ability to conceive of emotional ambivalence, for instance, does not develop before approximately 11 years, the experience of emotional ambivalence is likely present in infancy. Research on attachment in infancy (Ainsworth, Blehar, Waters, and Wall, 1978) has distinguished a pattern of attachment, called resistant attachment, characterized by the infant's emotional ambivalence towards its mother. Similarly, with regard to the time course of emotions, Harris and Olthof (1982) provide evidence that a deletion-replacement model best characterizes young children's conception of the relation between past and present emotional experiences, while an averaging model best characterizes older children's conception. However, they argue, the averaging model is likely to characterize the time course of the emotions themselves for both younger and older children. It is not clear whether emotional development proceeds through structurally similar stages to emotional conception, only much more rapidly, or whether emotional development is structurally quite different from emotional conceptual development.

In either case, the lack of structural correspondance between these two domains points to a certain conception of unconsciousness similar to that proposed by Piaget in his book, "The Grasp of Consciousness" (1976). Piaget argued that children's motor activity often develops in advance of their ability to conceive of that activity. As a result, children will often be unable to reflect on their own actions and to that extent will remain unconscious of their actions. Similarly, if young children can experience emotional ambivalence but not conceive of it, they can be said to be unconscious of their ambivalent emotions. This cognitive unconscious is quite distinct from the Freudian conception of unconsciousness. In the Freudian conception, the repression of feelings in unconsciousness is motivated and emotionally determined. A censoring agency is motivated to keep certain emotions out of conscious reflection. Unconsciousness is further maintained by the expression of the forbidden emotions in a form, determined by primary process thinking, that is too primitive for the rationally-guided conscious mind to understand. In the cognitive conception of unconsciousness, in contrast, unconsciousness is neither motivated nor emotionally determined. In addition, the unconscious emotions do not escape conscious scrutiny because they are too primitive, as in the Freudian conception, but, on the contrary, because these emotions are too complex for the conscious conceptual system to comprehend. There are clearly some clinical dilemmas that derive from this view of unconsciousness. Even though a 4-year-old cannot conceive of ambivalence, his or her emotional problems may nonetheless stem from ambivalent feelings. Therapy cannot be directed towards allowing the child to gain insight into the ambivalence, because

the child's conceptual level will not permit such insight. But the therapist must nonetheless find some other way to deal with the child's ambivalent feelings.

Finally, it should be emphasized that the lack of structural correspondance between emotional conceptions and emotions themselves does not imply that the two do not influence one another in their development. It simply implies that this influence cannot consist of the transfer of a common structure.

To support the existence of interdomain influences is not an easy task. Turiel (1983), in fact, argues that the positing of necessary relations between two invariant structural developmental sequences entails a logical contradiction. While I do not agree with this extreme position, I do think a number of cautions are in order in positing interdomain relations. I will use Gordon's paper for illustrative purposes although I feel the points are more generally applicable. Gordon posits the structure of adolescents' logical thinking as a determinant of their social judgments and behavior. However, I think it is necessary to establish when influences are due to the structure of reasoning as opposed to the content of reasoning. That is, even if it is the case that problems in social behavior are determined by deficiencies in reasoning, it may be that these deficiencies are the result of a paucity of relevant knowledge or of incorrect information rather than of immature cognitive structures. The structural logical apparatus may be intact, but the apparatus may have limited or faulty information to use as premises. Adolescents may be unable to conceive of possibilities not because they lack combinatorial reasoning, but because they lack relevant knowledge upon which the combinatorial can be applied. Lack of knowledge may be due to lack of experience, for instance as a result of social isolation or a homogeneous social sphere. Alternatively, knowledge may remain inaccessible to reasoning for emotional reasons, as the Freudian conception of unconsciousness implies. An example of an attempt to determine whether a deficiency in reasoning is determined by the subject's knowledge or by the structure of his reasoning is provided by Harris and Lipian (1985). These authors found that hospitalized 10-year-olds were unable to accept the possiblity of experiencing both positive and negative feelings during illness, even though children this age are normally found to be able to conceive of ambivalence. The authors note that these findings in themselves do not indicate whether the children have undergone a structural regression in their thinking or whether they are simply unaware of possibilities for happiness under conditions of hospitalization. To determine which of these hypotheses is valid, the authors then asked hospitalized children whether mixed emotions were possible if one had a minor cold, a situation in which they presumably could imagine possible sources of pleasure. But even in response to this question, the 10-year-olds tended to deny the possibility of ambivalence. In addition, the children reasoned on an immature level in response to questions concerning the control

and concealment of emotions. These results suggest that the hospital experience had indeed provoked a structural regression in their thinking. This study is, I think, a good example of the sort of evidence that is needed in order to determine whether deficient reasoning is the result of structural immaturity or regression, on the one hand, or of the inavailablility of relevant information, on the other. In the case of adolescents who do not generate possibilities, it is necessary to determine whether adaptive possibilities could have been inferred on the basis of information available to them, and, if not, whether they are capable of generating possibilities combinatorially once they are made aware of the relevant dimensions of their situation.

The issue of whether fallacious reasoning is due to deficiencies in structure or in content has clear clinical implications. If the reasoning difficulties are due to limitations in content, then the therapist needs to act either as an educator or as a facilitator of the uncovering of unconscious ideas, depending on the source of the limitation. However, if the problem is determined by structural deficiencies, the therapist must act to promote structural change by stimulating processes, such as equilibration, that may be responsible for such change.

In sum, even if we know that the development of logical reasoning influences the development of social judgment and behavior, deficiencies in the latter may often be due to limitations in available information, rather than to structural limitations in logical reasoning. However, the next question we must ask is whether logical reasoning does, in fact, influence social reasoning and behavior. Let us confine ourselves to the question of the relationship between domains of reasoning, leaving aside the question of the relationship between reasoning and behavior. Piaget (1974) distinguishes two possible types of relationship between conceptual domains. The first relationship is called application. A logical operation is applied to causal reasoning, for instance, if it is literally implicated in such reasoning. For example, the formulation of causal laws, according to Piaget, involves the construction of similarity classes of hypothesized causal events and of hypothesized effects and the determination of functions between those two similarity classes. That is, the logical categories of similiarity class and function are literally implicated in the formulation of causal laws. The other type of relationship between conceptual domains is attribution. In attribution, one domain influences a second by positing analogous operations in the latter. For example, Piaget considered that the dynamic aspects of causality could be explained by the attribution to physical objects of operations analogous to logical operations. The causal transfer of forces, for instance, is only analogous to, rather than identical to, logical transitivity. In the case of either applied or attributed operations, it is difficult to establish the existence or direction of influence between domains of thought. But in the case of attributed

operations it is especially difficult, since the operations in the two domains are only analogous, that is only partially isomorphic. As Piaget himself has noted (Piaget, 1969), almost anything can be seen as partially isomorphic to anything else to some degree. When we think of the development of logical and emotional conceptions, for instance, we can distinguish a number of striking differences between them. Logical reasoning is thought to be enmeshed at first in subjective egocentrism and to develop gradually towards objectivity and necessity. Emotional thinking, as Nannis has demonstrated, develops in the opposite direction, from an objectivist conceptualization towards a subjectivist one. Further, logical thinking develops from the acceptance of contradiction to its rejection. Emotional thinking develops from the rejection of emotional contradiction, that is of ambivalence, towards the recognition of the possibility of emotional contradiction. Given these differences, emotional reasoning would not appear to be closely analogous to logical reasoning in structure. In order to determine whether there are areas or aspects of social and emotional reasoning that are more similar in structure to logical reasoning than those just discussed or in which logical reasoning is literally applied, we will need more information on the structure of social and emotional reasoning themselves. As I mentioned at the beginning of this discussion, in order to determine the existence of relationships, it is important to have a good understanding of the individual relata. We need to know more about the structure and development of normal adolescents' reasoning about social problem situations before we can determine whether logical reasoning applied to nonsocial phenomena is implicated in social problem solving. Further, the study of relations between domains among normal children may help us determine how deficits in one domain influence deficits in the other, while the study of deficient functioning, conversely, may help us gain insight into normal development.

Related considerations are applicable to Slotnick's examination of cognition in autistic children. There is already good evidence that these children suffer handicaps in their social functioning, language, information processing, and reasoning skills (Ross & Pelham, 1981; Schmid-Kitsikis, 1976). Given the children's social and linguistic deficits, the provision of techniques to assess cognition that make minimal demands on language and social interaction is an important contribution. Slotnick argues that autistic children's social resistance, deficits in information processing, and their deficient self-regulatory abilities are responsible in part for the retardation observed in their logical structural development. At the same time, she maintains that the logical thinking of these children is structurally different, and not simply delayed, relative to the thinking of normal children. However, the claim that autistic children's structural competence is delayed and, especially, the claim that their competence is different relative to normals is difficult to substantiate in view of the profound

deficits they suffer in information processing (that is, perceptual integration, memory, etc.) and other functional areas. Autistic and normal children were said to be matched on level of structural competence on the basis of performance on the free classification task. But it was also on the basis of this task that evidence both for structural dissimilarities in thinking and for functional deficits were obtained. Could not the functional deficits have partially determined both the apparent structural dissimilarities and the apparent structural levels used as a basis for matching? In the provoked task, social demands were increased at the same time that processing demands were diminished. Given what we already know about autistic children's social resistance and processing limitations, it is not surprising that they showed great resistance to the task, probably due to their social problems, but that when they did make task-relevant responses, the level of their performance was superior to that in the free classification tasks, probably due to the reduced processing demands. However, it is difficult to assess the precise contributions of the structural and functional elements of the children's performance on this task. The problem of the disambiguation of structure and function was one that I, too, confronted in research on cognition among psychotic children (Breslow & Cowan, 1984) and I am by no means confident in my own solution to the problem either.

In many respects the comparative study of cognitive competence encounters problems similar to those encountered in cognitive developmental research. Younger children's performance on tests of logical reasoning is almost invariably inferior to that of older children. However, the interpretation of these differences is problematic, since there are also developmental differences in processing capacities, language, and other factors. The need to unconfound the assessment of logical competence from these other developing factors has been a major concern of cognitive developmentalists, for instance those involved in evaluating Piaget's theory (Breslow, 1981; Trabasso, 1977). Perhaps the comparative developmentalist can learn from their efforts. Slotnick suggests that the therapist might structure the physical medium in order to provoke cognitive disequilibration while minimizing social interaction. Similar techniques might be applied as well to assessments of the logical competence of autistic children that reduce the processing demands of tasks while maintaining a minimal social component. Performance on such tasks should be compared to that on similar noninteractive assessments that minimize the demands on children's logical abilities, while tapping a particular functional ability, such as memory, in order to determine the influence of deficits in functional abilities on logical performance.

In conclusion, the effort to apply structuralist theory to clinical issues comes up against many of the same problems confronting structuralist theory itself. In particular, this effort comes up against problems of distinguishing and determin-

ing relations between structure and content, between structure and function, and between one structural domain and another.

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